Fig.1

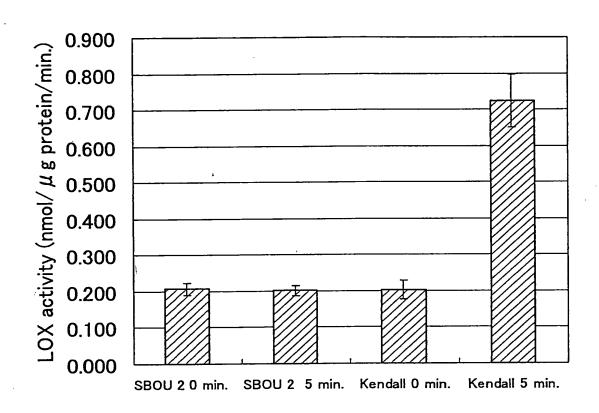


Fig.2

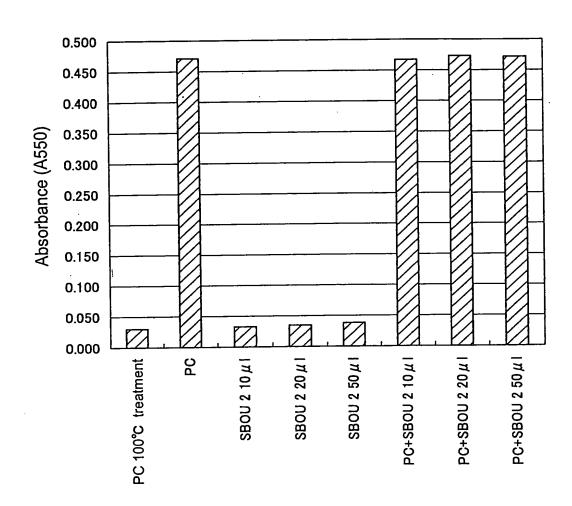


Fig.3

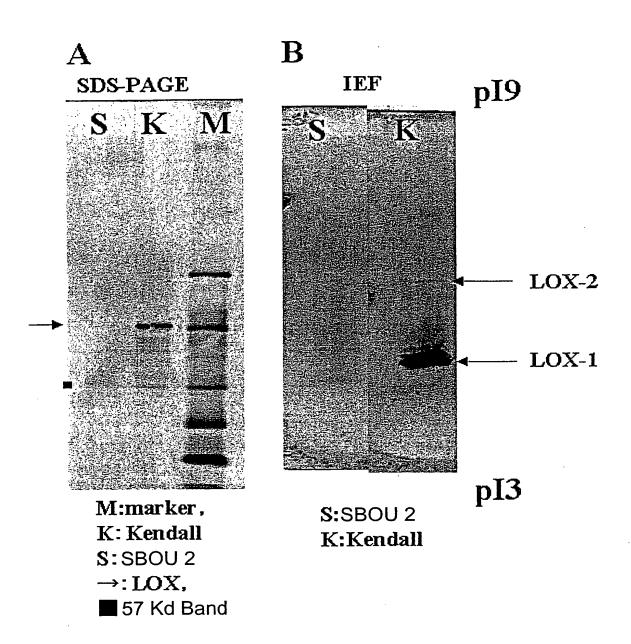
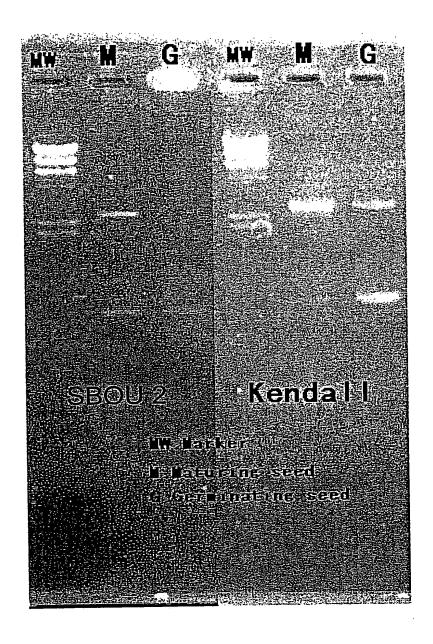


Fig.4



5/15

Vintage TCCGGGTGGCACCAGCTCAGCCACTGGTACGTTCTCCACGGTCGATGTGATTCAGTC 5th intron Splicing donor site Loss of Afal/Rsal site AfaI/Rsa SerGlyTrpHisGlnLeuValSerHis

Stop codon

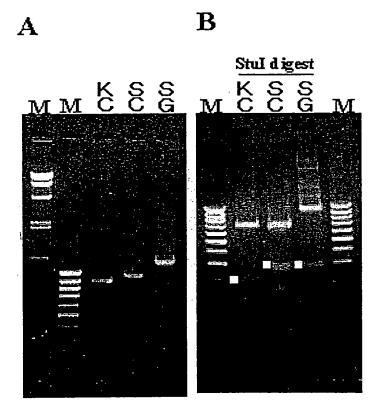
SerGlyTrpHisGlnLeuValSerHis\*\*\*

TCCGGGTGGCACCAGCTCAGCCACTGATACGTTCTCCACGGTCGATGTGATTCAGTC SBOU 2

Nucleotide sequences of LOX-1 gene, the regions of 5th intron splicing donor site

6/15

Fig.6



M: Marker,

KC: Kendall cDNA template SC: SBOU 2 cDNA template

SG: SBOU 2 genomicDNA template

Fig.7

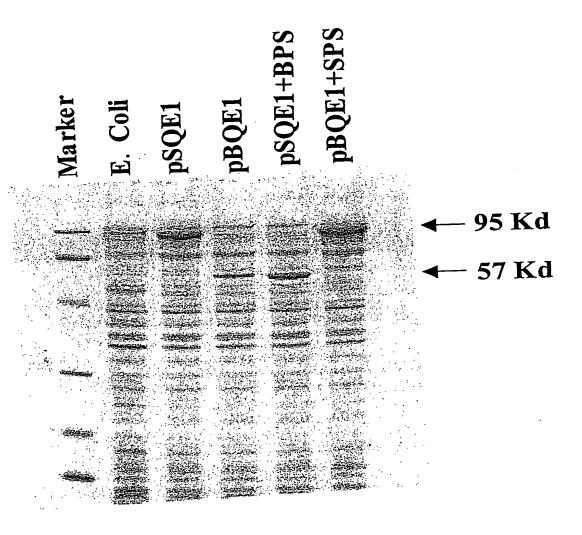
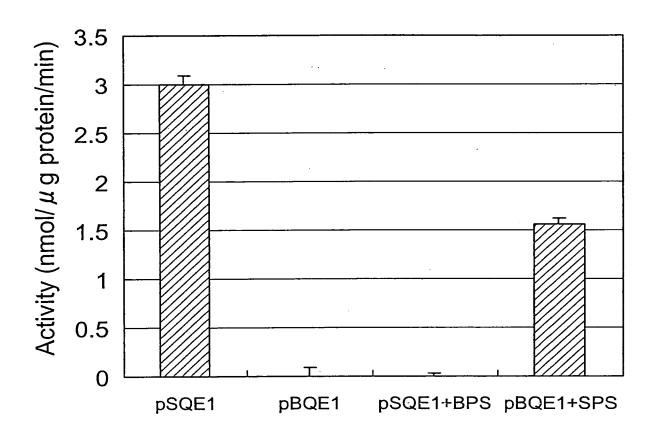


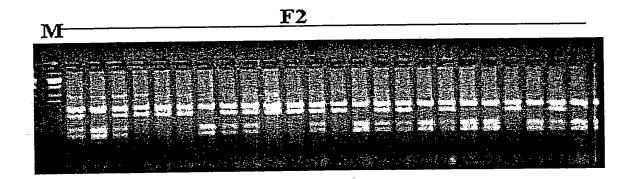
Fig.8



10/550528

9/15

Fig.9



M:Marker

F2: Kendall x SBOU 2 F2 DNA Afal method analysis

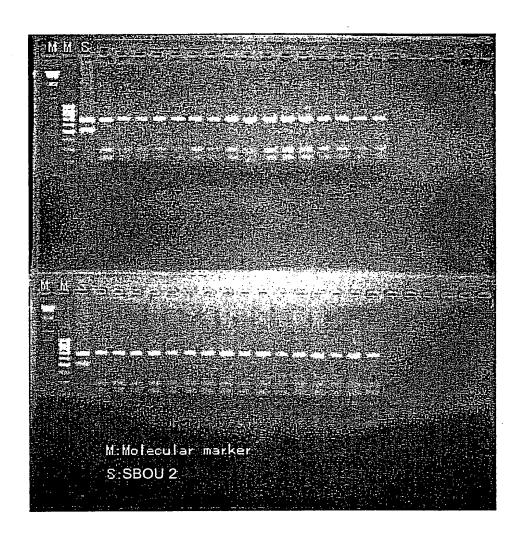


Fig.10

2 individual No	LOX activity	Afal method	JBC970	F	2 individual No.	LOX activity	Afal method	JBC970
E REPORTED THAT	EGAL BOOKING	CAPS	ササン				CAPS	サザン
1	+	КВ	кв		73	+	KB	KB
2	+	КК	KK		74	+	KB	KB_
3	+	KВ	кв		75	+	KK	KK
4		BB	КВ		76	+	KB	КВ
		88	BB		77	+	KK	KK
5		88	BB		78		88	88
6	<del></del>		KK		79	+	KB	KВ
7	+	KK			BO		B8	BB
8	+	KB.	KB		B1		88	88
. 9		KB	KB		82	+	КВ	КВ
10		BB	BB		83	+	KK	KK
11		88	KB		84	+	KK	KK
12	+	KB	KB_		85		88	BB
13		BB	BB					BB
14	<u> </u>	KK	KK		<u>86</u>		BB	88
15	+	KB_	KB		<u>87</u>	<del>-</del> -	BB	КВ
16	+	KB_	KB			+	KB _	
1.7	+	KK_	KK		B9		<u>BB</u>	
18	+	KB_	KB_		90		BB_	BB
19	+	KK	KK		31	+	KK_	KK
20		KK	KK		92		KB_	<u> </u>
21		88	KB		93		KB_	KB_
22		KK	KK		94		KK	KK
23		KB	KB		95		KB_	KB_
24		KK	KK		96		KB_	KB_
25		КВ	KB		97	<del></del>	KK	KK
26		КВ	КВ		98		KB	KB
27		KK	KK		99		KB	KB_
28		KK	KK		100	+	KB	KB
29		КК	KK		101	<u> </u>	88	BB
30		КВ	KB		102	+	KB	KK
31		KB	KB		103	+	KB	KB_
32		BB	КВ		104	+	KB	KB_
33		KB	КВ		105	+	KB	KB
34		KB	KB		106	+	KK	KK
35		KK	KB		10		KK	KK
		KB_	KB	<b></b>	108	_	KK	KK
36		KB	КВ	1	109		КВ	KB
3		KK	KK	<del> </del>	110		88	BB
38		KB			111		BB	BB
3!			<del>                                     </del>		113		KB	KB
40		KB_	BB		113	<del></del>	KB	КВ
4.		BB	KB	<del></del>	114		KB	КВ
4:		KB		<del> </del>	111		BB	BB
4		KK_	KK_	-	111		KB	KB
4		KB_	KB_		11		BB	BB
4		BB	BB	<del> </del>		4	KK	KK
4		KK.	KK_	<del> </del>	11		KB	KB
4		<u> </u>	BB	<del> </del>			KK	KK
4		KK	KB_	<del> </del>	12			KB
4		KB_	KB_	ļ	12	·	KB KB	KB
5		BB	BB	<del> </del>	12		KB KB	
5		KB	KB_	+	12		KK	KK
5	2 +	KB_	KB_		12		<del>  KВ</del>	KB
5	3 +	KK	KK	<b> </b>	12		BB	BB
	4	68	BB	<del></del>	12		KK KK	KK_
	5 +	KK	KK		12		KB	KB_
	6 -	88	88	<u> </u>	12		KB_	BB
	7 +	KВ	KB		12		KB	KB_
	в +	KB	KB	_l	13		KB	KB
	9 –	BB	BB		13		KK	KB_
	io -	BB	BB		13		KK	KK
	51 +	KK	KK		13	3	BB	88
	52 +	KK	KK		13		B8	88
		KK	KK	T	13		KK	KK
		KB	KB	1	13		KB	КВ
			KB	1	13		KB	KK
	55 +	KB KB		1	13		КВ	КВ
	56 +	KK_	KK_	+	13		BB	BB
	37 +	KB_	KB	<del></del>			KK	KK
	58 +	KK	KK_		14			
	39 <b>+</b>	K8	KB		14		KB	KB
	70 –	BB	BB		1-14		KB	BB
	71 +	KB	KB	_		13 +	KK	KK
	72 -	BB	BB	ł	1 14	14 +	KB	KB

FP04-0052-00

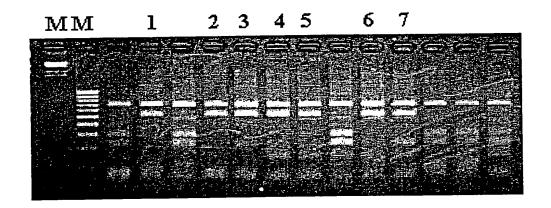
Fig.11



FP04-0052-00

12/15

Fig.12

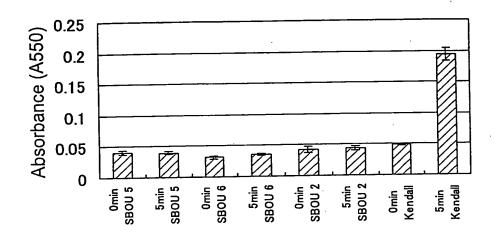


M: Marker, 1 and 5:SBOU2、2:SBOU 5、3:SBOU 6 4:SBOU 1、6:SBOU 3、7:SBOU 4

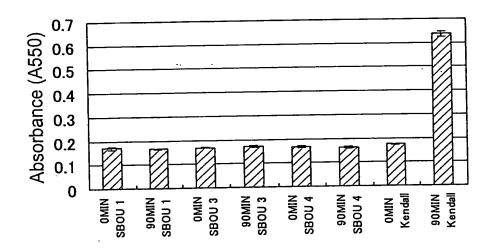
FP04-0052-00

13/15

Fig.13A



## Fig.13B



14/15

## Fig.14

Variety	LOX+F4	LOX-F4
Barley moisture content (%)	10.9	11
Barley weight (g)	3000	3000
Steeping (%)	44.8	44.5
Steeping time (h)	82	82
Malt yield weight (g)	2571.6	2572.2
Malt yield percent (%ad)	85.7	85.7
Malt yield percent (%db)	90.3	90.7
Moisture content (%)	6.1	5.8
Mashing time (min)	9-15	9-15
Lautering speed (min)	8	17
Transparency	2	2
Color (EBC)	2.1	2.2
Boiling color (EBC)	3.2	3.3
Air-dried extract (%)	67	69.3
Anhydrous extract (%)	71.4	73.5
TN (%)	2.49	2.291
SN (%)	0.648	0.645
Crude protein (%)	15.6	14.3
KZ	26	28.1
EVG (%)	78.8	79
DP (*WK)	348	377
DP (WK/TN)	140	165
Viscosity (mPa·s)	1.87	1.89
β-glucan (mg/l)	427	392
рН	5.97	6
Extract yield (%)	64.5	66.7

Fig.15

